Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (currently amended) A procedure for the manufacture of a bi-polar transistor, said procedure comprising the steps of:

producing ~~during which~~ structured regions consisting of a collector region and an insulation region that surrounds the collector region, ~~are produced~~ on a monocrystal substrate layer ; [[,]]

producing a base layer and, by means of epitaxy, a cap layer ~~are produced~~ over the collector region;

~~where an interposed buffer layer can be deposited,~~

depositing an insulation layer is deposited over the cap layer, the insulation layer being ~~is~~ opened in an ~~the~~ area of an ~~the~~ effective emitter zone; and [[,]]

depositing and structuring a poly-Si or an α-Si layer ~~is deposited and structured~~ over the opened insulation layer for use and ~~is then used~~ as an emitter-doping agent source and as a contact layer; [[,]]

wherein, before the diffusion from the emitter-doping agent source, a doping profile is introduced into the cap layer, and the profile is low-doped on the base side with a maximum concentration of 5×10^{16} cm^{-3}, and highly doped on the emitter side thereof, and wherein the low-doped region of the cap layer has a thickness between 20 nm and 70 nm.

Claims 2, 3 (cancelled)

4. (previously amended) The procedure of claim 1, wherein the emitter-side high doping concentration of the cap layer does not exceed values of 5×10^{18} cm^{-3} when the doping agent is of the same conductivity type as the base layer.

5. (previously amended) The procedure of claim 1, wherein the cap doping profile is introduced by implantation.

6. (previously amended) The procedure of claim 1, wherein the cap doping profile is introduced in situ during the epitaxy process.

7. (previously amended) The procedure of claim 1, wherein the cap doping profile is introduced by diffusion from the insulation layer after highly enriching the insulation layer with the doping agent.

8. (currently amended) A bi-polar transistor, in which structured regions consisting of a collector region and an insulation region that surrounds the collector region are produced on a monocrystal substrate layer, a base layer and, ~~where a buffer layer can be interposed,~~ by means of epitaxy, a cap layer is ~~are~~ produced over the collector zone, an insulation layer is deposited over the cap layer, the insulation layer is opened in an ~~the~~ area of the an effective emitter zone, a poly-Si or an α-Si layer is deposited and structured over the opened insulation layer and is then used as an emitter-doping agent source and as a contact layer,

wherein, in an overlapping region between an edge of the emitter window and the outer delimitation of the structured poly-silicon or α-silicon layer the cap layer contains a doping profile, wherein ~~and~~ the doping profile comprises a ~~is~~ low-doped region on the base side with a maximum doping concentration of 5×10^{16} cm^{-3} and a higher-doped region ~~and highly doped~~ on the emitter side, and wherein the low-doped region of the cap layer has a thickness between 20 nm and 70 nm.

Claims 9, 10. (cancelled)

11. (previously amended) The bi-polar transistor of Claim 8, wherein the emitter-side high doping concentration of the cap layer does not exceed values of 5×10^{18} cm^{-3} when the doping agent is of the same conductivity type as the base layer.

12. (currently amended) A procedure for manufacturing a bi-polar transistor, comprising the steps of:

producing, on a monocrystal substrate layer, structured regions consisting of a collector region and an insulation region, the insulation region surrounding the collector region,

producing a base layer and a cap layer over the collector region, the cap layer produced by epitaxy;

depositing an insulation layer over the cap layer, the insulation layer opened in an area of an effective emitter zone; and

depositing and structuring a poly-Si or an α-Si layer over the opened insulation layer, and using this layer as a source of emitter-doping agent and as a contact layer;

wherein, before diffusing from the emitting-doping agent source, a doping profile is introduced into the cap layer, the profile being low doped on a base side thereof with a maximum doping concentration of $5x\ 10^{16}\ cm^{-3}$ and high doped on an emitter side thereof, and wherein the low-doped region of the cap layer has a thickness between 20 nm and 70 nm.

13. (previously presented) The procedure of claim 12, further comprising the step of depositing a buffer layer between the collector region and the base layer.

14. (currently amended) A bi-polar transistor, comprising:

a monocrystal substrate layer;

structured regions comprising a collector region and an insulation region surrounding the collector region atop the monocrystal substrate layer;

a base layer and, by means of epitaxy, a cap layer produced over the collector region ~~when a buffer layer can be interposed~~;

an insulation layer deposited over the cap layer, the insulation layer being opened in an area of an effective emitter zone; and

a poly-Si or an α-Si layer deposited and structured over the opened insulation layer, this layer then used as an emitter-doping agent source and as a contact layer,

wherein, in an overlapping region between an edge of the emitter zone and an outer delimitation of the structured poly-silicon or α-silicon layer, the cap layer contains a doping profile, and the profile is low-doped on a base side thereof with a maximum doping concentration of $5x\ 10^{16}\ cm^{-3}$ and highly doped on an emitter side thereof, and wherein the low-doped region of the cap layer has a thickness between 20 nm and 70 nm.

15. (new) The bi-polar transistor of claim 8, further comprising:
a buffer layer interposed between the collector region and the base layer.